

IN THE CLAIMS

1. A method for estimating reference frequency drift in a navigation receiver, the method comprising the steps of:

5       associating a PDC handset subject to standby mode with a navigation receiver;

      sampling a VCO burst information that is received by said PDC handset;

10     running a numeric controlled oscillator (NCO) at a nominal frequency;

      periodically adjusting said NCO with samples obtained in the step of sampling;

      correlating both in-phase and quadrature-phase outputs of said NCO; and

15     computing a navigation receiver reference frequency drift estimate from information derived in the step of correlating.

2. The method of claim 1, further comprising the step of:

20     building a reference sinewave from data output by said NCO and passing such as updates to the step of correlating.

3. A circuit for estimating reference frequency drift in a navigation receiver, comprising:

25      a numeric controlled oscillator (NCO) for periodically receiving an NCO\_value on which an NCO output frequency depends;

      a first lookup table for approximating a sinewave from an inphase version of said NCO output frequency;

30      a first mixer connected to an output of the first lookup table and for combining it with a gated master clock

(MCLK) signal, and providing further for an I-mix signal output;

an I-correlator for correlating said I-mix signal output and having an I-correlation output;

5 a second lookup table for approximating a cosine wave from a quadrature phase version of said NCO output frequency;

a second mixer connected to an output of the second lookup table and for combining it with said gated master clock  
10 (MCLK) signal, and providing further for a Q-mix signal output;

a Q-correlator for correlating said Q-mix signal output and having an Q-correlation output; and

15 a drift estimate output comprising said I-correlation and Q-correlation outputs.

4. The circuit of claim 3, further comprising:

an NCO value holding latch for receiving a data write from a firmware control program, and connected to gate  
20 an MCLK signal to the first and second mixers.

5. The circuit of claim 3, further comprising:

an I-latch and a Q-latch providing for a register of said I-correlation and Q-correlation outputs to a data read  
25 from a firmware control program.